



COLD CHAIN STORAGE AND DISTRIBUTION

PowerSense

Wireless Multi-Sensor with Extended Battery Life, and Highly Accurate Environment Sensing of Temperature and Humidity. In compliance with EN 12380:2018 and EN 13485 standards.

Description

The **PowerSense** is an extremely accurate and reliable wireless sensor, featuring rapid response times for precise measurements and extended battery life.

The PowerSense, with its small form factor, offers a wide array of integrated sensing capabilities. It can detect temperature, relative humidity, impact, motion, orientation change, and magnetic field variations. Its innovative design optimizes temperature and humidity sensing performance, by optimizing surrounding airflow, shielding out PCB heat, and preventing moisture buildup to maintain a consistently dry environment. This design sets a new standard for wireless measurement and logging.

The PowerSense can be mounted in cold chain storage and transportation or can be packaged with commodities, to provide end-to-end remote environmental visibility and high-frequency history/logging.

It operates across a broad temperature range (-40°C to +85°C) and humidity range (0% to 100%), ensuring reliable data retention, with storage capacity for up to 3,000 readings between uploads.

The PowerSense employs 2.4 GHz wireless technology for communication with Pointer's Logistics and Vehicle Gateways. The solution incorporates validated software that adheres to Israeli Pharma regulations, as well as Compliance with FDA 21CFR Part 11, EU Annex 11, EN 12380, GAMP5, and Procedure 126 of the Israeli Ministry of Health. This versatile solution is well-suited for use across all stages of the supply chain in diverse industries, including pharmaceuticals, medical cannabis, cold chain transportation, the food industry, agriculture, and more.

Key Features

- Real-time environment sensing functionality includes temperature, humidity, motion/impact, orientation, and magnet (for device on/off switching)
- Operating temperature: -40°C to +85°C with $\pm 0.2^\circ\text{C}$ typical accuracy
- Operating humidity: 0% to 100% with $\pm 2\%$ typical accuracy
- Low response time that complies with industry standards
- Sample storage: 3,000 samples
- BLE 5.3 Long Range
- Waterproof protection – IP67 rating
- Easy install
- On-the-fly event-based alert notifications



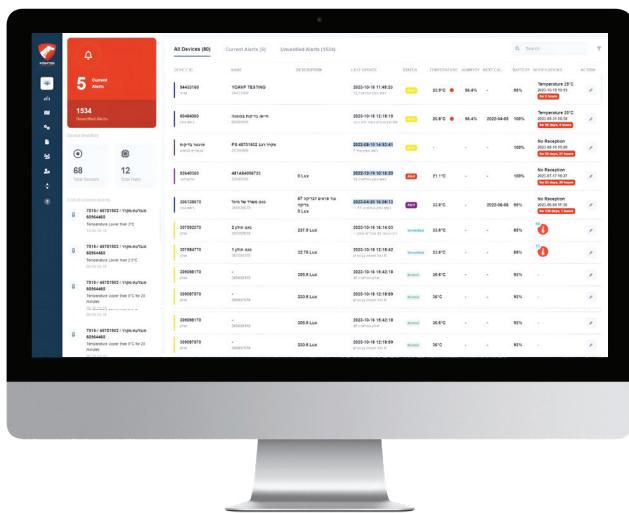
Up to 5-year battery life



High accuracy temperature and humidity sensing



Cold Chain Compliance - EN 12830 for vibration resistance and EN 60068-2-27 for shock resistance



Pointer IoT Software

In our commitment to provide our customers with “peace of mind” and remote-control capabilities, we’ve developed validated IoT software. Key features include:

- Compliance with FDA 21CFR Part 11, EU Annex 11, EN 12380, GAMP5, and Procedure 126 of the Israeli Ministry of Health.
- Real-time notifications for violations.
- SMS notifications upon the resolution of violations and return to normal states.
- Escalating alert mechanisms.
- Notifications for calibration dates.
- Online access to vehicle location and travel history.
- Generation of various reports.
- The Pointer IoT App for easy access to notifications and sensor status.

Technical Specifications

BLE

BLE Technology	BLE 5.3 /2.4GHz. by Nordic nRF52833
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Power

Internal Battery	3.6V Lithium-Thionyl Chloride, AA size, 2500mAh
Consumption	75uA at Temperature & Humidity sampling and transmitting every 1 min

Environmental

Temp, operation	-40°C to +85°C (Depending on battery type)
Temp, storage	-40°C to +85°C (Depending on battery type)
Humidity	Operating range 0% to 100%
Ingress Protection	IP67
Vibration, Impact	Shock resistance according to EN 60068-2-27 Vibration according to EN 12830
Power transients	Unit passes all relevant environmental regulation tests

Certifications

Communication	FCC, CE
Regional	EN 13485 and EN 12830 - Temperature recorders for transporting, storing, and distributing chilled, frozen, deep-frozen food and ice cream. Tests performance and suitability. Response time: Maximum 5 minutes Class 0,2: $\pm 0,2^{\circ}\text{C}$ Suitability for storage (S) and/or transport (T);

Data Retention

Memory	Up to 3,000 Temp and Humidity Samples
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Size

Dimensions	94.1 x 39.2 x 26.4 mm (L x W x H)
Weight	13 gr

Installation

Mounting	Nylon/metal tie-wraps, 2 screws and/or two-sided adhesive
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Features

Movement	3D, $\pm 2\text{g}/\pm 8\text{g}$ range, 12 Bit representation, 1 mg/4mg resolution <ul style="list-style-type: none"> Vibration sensing with programmable threshold Free-fall sensing with programmable threshold Impact sensing with threshold up to 8g
Humidity Sensor	Operating range and accuracy (%RH): Operating range 0% to 100% Accuracy 10% to 50% RH; TYP $\pm 0.5\%$ RH; MAX $\pm 2.0\%$ RH 50% to 70% RH; TYP $\pm 1.0\%$ RH; MAX $\pm 2.0\%$ RH 70% to 80% RH; TYP $\pm 1.0\%$ RH; MAX $\pm 2.5\%$ RH 80% to 90% RH; TYP $\pm 1.5\%$ RH; MAX $\pm 3.0\%$ RH Resolution 0.1% RH, Tested at 25°C
Temperature Sensor	Operating range: -40°C to 85°C Accuracy (°C): -40°C to 0°C; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.3^{\circ}\text{C}$ 0°C to 50°C; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.2^{\circ}\text{C}$ 50°C to 85°C; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.3^{\circ}\text{C}$ Resolution: 0.1°C
Magnetic Sensor	10-30mm range an optionally provided magnet. Used to detect open/closed door and/or power "On"/"Off"

About Pointer

Pointer is an international American subsidiary listed on the stock exchange. The company's IoT solutions are considered leaders in temperature and humidity monitoring for large industries, including: Pharma, food and logistics, under the strict requirements of the European Ministry of Health, FDA and GMP.



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